

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A touch probe, including [[.]] a casing [(1)] that defines a longitudinal geometric axis, [[.]] a movable arm-set [(3)], housed in the casing [(1)], [[.]] an arm [(13)] rigidly coupled to the movable arm-set [(3)] with an end extending out of the casing, [[.]] a feeler [(15)] coupled to said end of the arm [(13)], and [[.]] an electric switch [(31)] adapted for detecting displacements of the movable arm-set [(3)] with respect to the casing [(1)], and including [[.]] at least a stationary contact[(44,45)] and a movable contact [(51), [[.]] a housing [(33)] enclosing said stationary contact [(44,45)] and said movable contact [(51)] and a contact protective fluid, and [[.]] a mechanical transmission device [(61)] adapted for transmitting displacements of the movable arm-set [(3)] to the movable contact [(51), characterized in that]] wherein the casing [(1)] encloses a sealingly closed chamber [(19,22,34,35)], the housing [(33)] of the electric switch [(31)] lying at the interior of said sealingly closed chamber [(19,22,34,35)], said contact protective fluid being an inert gas that is present in the sealingly closed chamber [(19,22,34,35))].

2. (Original) The probe according to claim 1, wherein said inert gas is nitrogen.

3. (Currently Amended) The probe according to claim 1 [[or claim 2]], including an antirotation device adapted for preventing rotations of the movable arm-set [(3)] with respect to the casing [(1)] about a longitudinal axis, said antirotation device including a metal bellows [(19)] fixed to the ends of the movable arm-set [(3)] and to a mechanical coupling element [(20)], rigidly coupled to the casing [(1)], the metal bellows [(19)] defining at least in part said sealingly closed chamber [(19,22,34,35)].

4. (Currently Amended) The probe according to [[one of the]] claim [[s]] 1 [[to 3]], wherein the movable arm-set [(3)] defines an axial through hole [(27)]

communicating with said sealingly closed chamber [(19,22,34,35)], the inert gas being inserted in the sealingly closed chamber [(19,22,34,35)] through said axial through hole [(27)].

5. (Currently Amended) The probe according to claim 4, further including a closure screw [(28)] and a ring gasket [(29)], wherein the axial through hole [(27)] includes at least a threaded area, the closure screw [(28)] being adapted to be coupled to said at least one threaded area and to lock the ring gasket [(29)] for achieving the sealing of the axial through hole [(27)].

6. (Currently Amended) The probe according to [[one of the]] claims[[s]] 1 [[to 5]], wherein the mechanical transmission device [(61)] of the electric switch [(31)] includes an elongate mechanical body [(63)] between the movable arm-set [(3)] and the movable contact [(51)], substantially longitudinal guide surfaces [(70-72)] and an elastic thrust element [(73)] adapted for urging the elongate mechanical body [(63)] against said guide surfaces [(70-72)].

7. (Currently Amended) The probe according to claim 6, wherein the elastic thrust device includes a bent flat spring [(73)] and the elongate mechanical body [(63)] includes a transmission element [(67)] with a substantially spherical shape adapted for cooperating with the substantially longitudinal guide surfaces [(70-72)] urged by the bent flat spring [(73)], the transmission element [(67)] including a substantially plane portion [(77)] adapted for cooperating with said bent flat spring [(73)].

8. (Currently Amended) The probe according to [[one of the]] claim[[s from]] 1 [[to 7]], wherein the movable arm-set [(3)] is supported in the casing [(1)] by means of a cone-ball coupling [(9,5)] the movable arm-set and the casing defining annular surfaces [(7,11)] adapted to mutually contact and to cause, further displacements of the arm [(13)], longitudinal displacements of the movable arm-set

[[3]] suitable for being transmitted, by means of said mechanical transmission device [[61]], to the movable contact [[51]] of the electric switch [[31]].

9. (Currently Amended) The probe according to [[one of the]] claim [[s from]] 1 [[to 7]], wherein the movable arm-set [[3]] is supported in the casing [[1]] by a coupling between plane annular surfaces [[7,11]], the movable arm-set [[3]] and the casing [[1]] defining, respectively, a substantially spherical portion [[9]] and a substantially frusto-conical seat [[5]] adapted to mutually contact and to cause, further to displacements of the arm [[13]], the partial disengagement between the plane annular surfaces [[7,11]] and the consequent longitudinal displacements of the movable arm-set [[3]] suitable for being transmitted, by means of said mechanical transmission device [[61]], to the movable contact [[51]] of the electric switch [[31]].

10. (Currently Amended) The probe according to [[one of the]] claims [[s from]] 1 [[to 9]], wherein the electric switch [[31]] includes a spring [[53]] for urging the movable contact [[51]] against said at least one stationary contact [[44,45]].

11. (Currently Amended) The probe according to claim 10, wherein said electric switch [[31]] includes at least two stationary contacts [[44,45]], said spring [[53]] being adapted for urging the movable contact [[51]] against the two stationary contacts [[44,45]].